

REQUIREMENTS FOR SPECIAL PURPOSE FACILITIES

GENERAL:

Three Activities (NPIC, Processing and Control) comprise a system to be housed in the proposed facilities. The attached Tables list site, building, and utility requirements for each Activity separately and in various combinations. Table A assumes NPIC to work on a single shift basis while Processing and Control work three shifts. Table B assumes all Activities working three shifts; the resulting increased productivity from NPIC processes induces an assumed 40% reduction in building and parking requirements. The three Activities may be housed separately or in one building.

BUILDING REQUIREMENTS:

A unique building character results from a mix of a primary light-industrial use with accompanying office space and special purpose rooms which could be accommodated in either single story or multistory buildings. Approximately two-thirds of the gross building area is devoted to Special Purpose Space. The functions to be housed in these spaces generate requirements for a variety of environments comprised of non-typical elements - such as large open spaces, high ceilings, special wall densities (emanations) and room finishes.

There are special requirements for a vibration free structure accompanied by some stringent floor loading due to process equipment.

In addition to the usual air conditioning found in contemporary office buildings, there are requirements for clean air rooms (remove 98% of particles greater than 3 microns), refrigeration vaults, and areas with precise temperature and humidity tolerances - all with low tolerances for allowable HVAC equipment noise and vibration.

The process water system requires water temperature controls and special treatment to control purity before use and neutralization after use. Total domestic and process water consumption will be high.

Required electrical loads will be relatively high with the bulk of the demands from the HVAC systems and the process equipment at 277/440 volts. Adequate emergency generation to supply about 80% of the connected capacity is essential.

Gas, steam and compressed air systems may be required depending on the particular design of the HVAC and process water systems.

Trash collection and disposal requirements are two-fold; both classified and unclassified trash must be processed. Classified trash will be generated in several media and will require more than one method of destruction.

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Perimeter fencing and controlled entrances to the site are required. In addition to fire and intrusion alarm systems, protection against electromagnetic interference and electromagnetic emanation interception is required.

Provision of basic supporting services to the facility is essential. It is highly desirable that water supply, sewage treatment, storm drainage, fire department, ambulance and hospital services be supplied by the host base or nearby municipality. It is expected that basic energy supplies will be purchased from the local economy. Building areas listed in the Tables do not include allowance for generation of primary utilities and services.

SITE REQUIREMENTS:

Nearness of NPIC to Washington, D.C. is desirable, but not essential. Communications problems and costs between the Activities will increase with the distances between them. Possible site combinations are:

- | | |
|-------------|--------------------|
| 1. N+P+C | (1 site) |
| 2. N+P -- C | (2 separate sites) |
| 3. N -- P+C | (2 separate sites) |

Locations near airports and heavy air traffic corridors are undesirable; locations susceptible to sonic boom and explosion shock waves are unacceptable.

Acreage for buildings is based on an assumption of three story buildings. Acreage for parking is based on average requirements at the fringe of Washington Metropolitan area. If the sites to be selected have inadequate housing and public transportation, the parking acreage requirement will increase.

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ITEM	ACTIVITY			TOTALS		COMBINATIONS OF ACTIVITIES	
	NPIC	PROCESS	CONTROL	N+P+C	N+P	P+C	
25X1 Gross Square Feet	530,000	62,500	62,500	655,000	592,500	125,000	
Parking Spaces	1,000	94	94	1,288	1,194	188	
Site Acres:							
Building	7.0	1.0	1.0	9.0	8.0	2.0	
Parking	8.5	0.7	0.7	9.9	9.2	1.4	
Control	20-650	20-650	20-650	60-650	40-640	40-650	
Total	35.5-650	21.7-650	21.7-650	78.9-650	57.2-650	43.4-650	
Utility Systems:							
(a) Electric (277/440 volts)							
Demand KW	5,000	2,250	2,250	9,500	7,250	4,500	
Installed Capacity KW	8,000	3,750	3,750	15,500	11,750	7,500	
Emergency Generator KW	6,400	3,000	3,000	12,400	9,400	6,000	
(b) Water & Sewage (1,000 gal/day)							
Processing	1,000	156	None	1,156	1,156	156	
Domestic	155	50	44	249	205	94	
Total	1,155	206	44	1,405	1,361	250	
(c) Air Conditioning (in tons)							
Demand	1,450	350	350	2,150	1,800	700	
Emergency	1,100	175	300	1,575	1,275	475	
(d) Heat (million BTU/Hr.)	10.6	1.25	1.25	13.1	11.85	2.50	
Waste Disposal:							
(a) Classified (pulp-lbs/day)	1,850	250	180	2,280	2,100	430	
(b) Classified (burn only-lbs/day)	1,850	250	180	2,280	2,100	430	
(c) Unclassified (loose-cu yds)	10.0	1.0	1.0	12.0	11.0	2.0	

GROUP 1
 Excluded from automatic
 downgrading and
 declassification

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ITEM	ACTIVITY			TOTALS	COMBINATIONS OF ACTIVITIES	
	NPIC	PROCESS	CONTROL	N+P+C	N+P	P+C
25X1 Gross Square Feet	319,000	62,500	62,500	443,000	380,500	125,000
Parking Spaces	570	94	94	758	664	188
Site Acres:						
Building	4.0	1.0	1.0	6	5.0	2.0
Parking	4.5	0.7	0.7	5.9	5.2	1.4
Control	20-650	20-650	20-650	60-650	40-650	40-650
Total	28.5-650	21.7-650	21.7-650	71.9-650	50.2-650	43.4-650
Utility Systems:						
(a) Electric (277/440 volts)						
Demand KW	3,000	2,250	2,250	7,500	5,250	4,500
Installed Capacity KW	4,800	3,750	3,750	12,300	8,550	7,500
Emergency Generator KW	3,850	3,000	3,000	9,850	6,850	6,000
(b) Water & Sewage (1,000 gal/day)						
Processing	1,000	156	None	1,156	1,156	156
Domestic	155	50	44	249	205	94
Total	1,155	206	44	1,405	1,361	250
(c) Air Conditioning (in tons)						
Demand	870	350	350	1,570	1,220	700
Emergency	660	175	300	1,010	835	475
(d) Heat (million BTU/Hr.)	6.36	1.25	1.25	8.86	7.61	2.50
Waste Disposal:						
(a) Classified (pulp-lbs/day)	1,850	250	180	2,280	2,100	430
(b) Classified (burn only-lbs/day)	1,850	250	180	2,280	2,100	430
(c) Unclassified (loose-cu yds)	10.0	1.0	1.0	12.0	11.0	2.0

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ITEM	ACTIVITY		
	NPIC	PROCESS	CONTROL
Structure:			
Floor Live Loads (PSF)	150-250	150-250	150-250
Column Spacing (minimum feet)	20	20	20
Walls	Masonry	Masonry	Masonry
Fire Resistive Construction (hr.)	2-3	2-3	2-3
Windows	None	None	None
Number of Stories Desired	Low Rise:	2-6	
Vibration Tolerances	1 micron displacement	@ 20-60 Hertz	
Floor Area Minimum Desired/S.F.	60,000	20,500	20,500
Elevators			
4,000 lb. Freight	1	1	1
2,500 lb. Passenger	2	1	1
Communications:			
Secure Voice (trunk)	8	4	4
Teletype (trunk)	1 (18)	1 (18)	1 (18)
Data Link	3	2	2
Secure Intercom	850	140	140
Facsimile	LDX	LDX	LDX

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